

December 18, 2003



# Cooperative Threat Reduction

Cooperative Threat Reduction  
Construction Projects  
(D-2004-039)

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### **Acronyms**

CTR	Cooperative Threat Reduction
CWDF	Chemical Weapons Destruction Facility
DTRA	Defense Threat Reduction Agency
DUSD(TSP&CP)	Deputy Under Secretary of Defense (Technology Security Policy and Counterproliferation)
FMSF	Fissile Material Storage Facility
HEU	Highly Enriched Uranium
IG DoD	Inspector General of the Department of Defense
LPDF	Liquid Propellant Disposition Facility
MINATOM	Ministry of Atomic Energy
SRMDF	Solid Rocket Motor Disposition Facility



INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-4704

December 18, 2003

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION,  
TECHNOLOGY, AND LOGISTICS  
UNDER SECRETARY OF DEFENSE FOR POLICY  
DIRECTOR, DEFENSE THREAT REDUCTION AGENCY

SUBJECT: Report on Cooperative Threat Reduction Construction Projects  
(Report No. D-2004-039)

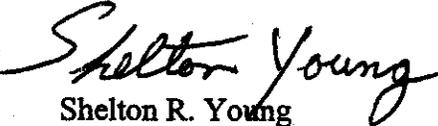
We are providing this report, which the Deputy Secretary of Defense requested, for review and comment. We considered management comments on a draft of this report when preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. As a result of Public Law 108-136, "National Defense Authorization Act for FY 2004," we revised Recommendation 1.a.(2)(a). We request that the Deputy Under Secretary of Defense (Technology Security Policy and Counterproliferation) provide additional comments on Recommendations 1.a.(1), 1.a.(2)(a), 1.a.(2)(b), 1.a.(2)(c), and 1.b by January 20, 2004.

If possible, please send management comments in electronic format (Adobe Acrobat file only) to [Audls@dodig.osd.mil](mailto:Audls@dodig.osd.mil). Copies of the management comments must contain the actual signature of the authorizing official. We cannot accept the / Signed / symbol in place of the actual signature. If you arrange to send classified comments electronically, they must be sent over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Questions should be directed to Ms. Evelyn R. Klemstine at (703) 604-9172 (DSN 664-9172) or Mr. Donney J. Bibb at (703) 604-9613 (DSN 664-9613). The project team members are listed on the back inside cover. See Appendix C for the report distribution.

By direction of the Deputy Inspector General for Auditing:

  
Shelton R. Young  
Director, Readiness and  
Logistics Support Directorate

## Office of the Inspector General of the Department of Defense

Report No. D-2004-039

December 18, 2003

(Project No. D2002LG-0219.01)

### Cooperative Threat Reduction Construction Projects

#### Executive Summary

**Who Should Read This Report and Why?** Civil service and uniformed officers who manage contracts and international programs should read this report. This report discusses topics of significant congressional, national, and international interest.

**Background.** This report, which is one in a series requested by the Deputy Secretary of Defense, evaluates DoD management of the fissile material storage project and the chemical weapons destruction project under the Cooperative Threat Reduction (CTR) program. This report also discusses Inspector General of the Department of Defense (IG DoD) Report No. D-2002-154, "Cooperative Threat Reduction Program Liquid Propellant Disposition Project," September 30, 2002, and IG DoD Report No. D-2003-131, "Cooperative Threat Reduction Program: Solid Rocket Motor Disposition Facility Project," September 11, 2003. The objectives of the CTR program are to destroy chemical, nuclear, and other weapons; to transport, store, disable, and safeguard weapons until their destruction; and to establish verifiable safeguards against proliferation of weapons of mass destruction.

For the fissile material storage project, DoD agreed to assist Russia with the storage of fissile material from dismantled nuclear weapons to ensure that the destruction of nuclear weapons was not interrupted. The fissile material storage facility can store 25,344 containers of fissile material. For the chemical weapons destruction project, DoD agreed to assist Russia in creating a facility to destroy Russian nerve agents, along with the munitions in which they are contained. After the nerve agents are neutralized, Russia plans to encase the neutralized chemicals in a type of asphalt called bitumen for long-term storage.

**Results.** In IG DoD Report No. D-2002-154, we reported that Russia will not use the liquid propellant disposition facility because Russia stated that it had used the liquid propellant for commercial space launches. In IG DoD Report No. D-2003-131, we reported that Russia stated that it had stopped the solid rocket motor disposition facility project because Russia could not obtain the land allocation. The United States spent \$95.5 million to assist Russia in converting liquid propellant into commercial products and \$99.7 million to assist Russia in designing and constructing the solid rocket motor disposition facility.

Similar to the situation with the liquid propellant disposition facility project, there are risks that Russia may not fully utilize the fissile material storage facility. Also, similar to the situation with the solid rocket motor disposition facility project, there are risks that Russia will rescind land allocation for the chemical weapons destruction facility. There are also risks that delays in obtaining design approvals for the chemical weapons destruction facility will cause the construction schedule to slip and increase costs, that Russia will not use the designed bituminization building, and that construction and

operation of the facility will be suspended or terminated because of environmental laws. As of July 2003, DoD has spent \$372.8 million for containers and to design and construct the fissile material storage facility and \$203.9 million for the chemical weapons destruction facility, but Russia may not fully utilize those items to store fissile material and destroy chemical weapons. DoD could have better managed the risks associated with those projects had it negotiated implementing agreements that better defined Russia's requirements, thus making Russia more responsible for the storage and elimination of Russian weapons of mass destruction. (See the Finding section of the report for the detailed recommendations.)

We reviewed the management control program of the Defense Threat Reduction Agency and identified material management control weaknesses within the CTR Program as defined by DoD Instruction 5010.40. Management controls over the CTR Program were not adequate to ensure that facilities constructed to aid Russia in the storage and destruction of weapons of mass destruction were used for their intended purpose.

**Management Comments and Audit Response.** Comments from the Deputy Under Secretary of Defense (Technology Security Policy and Counterproliferation) were partially responsive. The Deputy Under Secretary needs to readdress the recommendation to obtain an agreement with the Ministry of Defense outlining the types and quantities of fissile material to be provided for storage in the Fissile Material Storage Facility. The Deputy Under Secretary needs to address the recommendations to obtain an agreement with the Russian Munitions Agency to resolve concerns over the transportation of chemical weapons to the Chemical Weapons Destruction Facility and obtain an agreement with the Russian Munitions Agency committing Russia to the bituminization process. The Deputy Under Secretary also needs to comment on the revised recommendation to obtain all design package approvals before obligating more than 40 percent of anticipated project costs. The revised recommendation was based on Public Law 108-136, "National Defense Authorization Act for FY 2004." In addition, the Deputy Under Secretary needs to provide a copy of the signed transparency agreement with the Ministry of Atomic Energy. We request that the Deputy Under Secretary provide comments to the final report by January 20, 2004. Comments from the Director, Defense Threat Reduction Agency were responsive. See the Finding section of the report for a discussion of management comments and the Management Comments section of the report for the complete comments.

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## Background

On March 18, 2002, the Deputy Secretary of Defense requested that the Office of Inspector General of the Department of Defense (IG DoD) review the Cooperative Threat Reduction (CTR) projects that rely on Russian Federation (Russia) assurances and that are vulnerable to misuse and review the organizational arrangements between the CTR Policy office within the Office of the Under Secretary of Defense for Policy and the CTR Directorate at the Defense Threat Reduction Agency (DTRA). This report discusses the Fissile Material Storage Facility (FMSF) and the Chemical Weapons Destruction Facility (CWDF). On September 30, 2002, we issued IG DoD Report No. D-2002-154, "Report on the Cooperative Threat Reduction Program Liquid Propellant Disposition Project," and on September 11, 2003, we issued IG DoD Report No. D-2003-131, "Report on Cooperative Threat Reduction Program: Solid Rocket Motor Disposition Facility Project," which are summarized in this report. We are continuing to evaluate the organizational arrangements between the CTR Policy office within the Office of the Under Secretary of Defense for Policy and the CTR Directorate at DTRA.

To reduce the threat posed by weapons of mass destruction in the former Soviet Union, Congress enacted Public Law 102-228 (section 2551 [note], title 22, United States Code), "Soviet Nuclear Threat Reduction Act of 1991," December 12, 1991. That law designates DoD as the executive agent for the CTR Program. Public Law 102-228 and subsequent laws that continue the CTR Program are commonly referred to as Nunn-Lugar legislation. The objectives of the CTR Program are to destroy chemical, nuclear, and other weapons; to transport, store, disable, and safeguard weapons until their destruction; and to establish verifiable safeguards against proliferation of weapons of mass destruction. From FY 1992 through FY 2003, Congress appropriated \$5.1 billion for the CTR program.

**Framework for Assistance.** DoD provides assistance to countries of the former Soviet Union through umbrella agreements and implementing agreements. The umbrella agreement with Russia, signed on June 17, 1992, establishes the overall framework under which the United States provides assistance to Russia. The umbrella agreement, which was to expire in June 1999, was extended by a protocol in June 1999 for an additional 7 years.

The FMSF and CWDF projects are managed under implementing agreements between DoD and Russian executive agents. Projects to store fissile materials are managed under three implementing agreements with the Ministry of Atomic Energy (MINATOM). DoD provided containers for fissile material under an implementing agreement that expired in June 1999, and assisted with the design of the FMSF under an implementing agreement that expired in October 1996. DoD agreed to complete the design and construct the FMSF under the "Agreement Between the Department of Defense of the United States of America and the Ministry of Atomic Energy of the Russian Federation Concerning the Provision of Material, Services, and Training Relating to the Construction of a Safe, Secure, and Ecologically Sound Storage Facility for Fissile Material Derived from the Destruction of Nuclear Weapons," September 1993 (FMSF Agreement). The

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CWDF project is being managed under the “Agreement Between the Department of Defense of the United States of America and the Russian Munitions Agency Concerning the Safe, Secure, and Ecologically Sound Destruction of Chemical Weapons,” July 1992 (CWDF Agreement).

**DoD Program Management.** The Office of the Under Secretary of Defense for Policy develops, coordinates, and oversees implementation of policy for the CTR program through the Deputy Under Secretary of Defense (Technology Security Policy and Counterproliferation) (DUSD[TSP&CP]). DUSD(TSP&CP) negotiates implementing agreements with countries of the former Soviet Union. The Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics manages the execution and implementation of CTR projects through the Assistant to the Secretary of Defense (Nuclear, Chemical, and Biological Defense Programs).<sup>1</sup> The Defense Nuclear Agency, which became the Defense Special Weapons Agency in June 1995, managed CTR projects until October 1998. Since October 1998, the CTR Directorate, DTRA has managed the daily implementation of the CTR program. DTRA operates under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology, and Logistics.

**Storage of Fissile Material.** In October 1992, DoD agreed to assist Russia with the storage of fissile material from dismantled nuclear weapons to ensure that the destruction of nuclear weapons was not interrupted. The assistance includes providing containers and designing and constructing the FMSF. Several changes were made to the FMSF including locations, design concepts, and capacity. The type of assistance that DoD provided has also expanded.

**Changes to the Fissile Material Storage Facility.** DoD and Russia have made several changes to the FMSF project. Initially, two facilities were to be constructed, one located in Tomsk, Russia, and another located at Mayak, Russia. However, in January 1994, a decision was made to build only the facility located at Mayak, Russia. Although MINATOM designed the FMSF to store the containers of fissile material horizontally, in November 1994, MINATOM changed the design to store the containers vertically. The FMSF design initially called for two wings, capable of storing 50,000 containers of fissile material. However, Public Law 107-314, “National Defense Authorization Act for FY 2003,” limits design and construction of the FMSF to one wing. With one wing, the FMSF is capable of storing 25,344 containers of fissile material.

**Expansion of DoD Assistance.** Since the FMSF project began, the type of assistance that DoD provides to Russia has expanded. In October 1992, DoD agreed to provide Russia up to \$15 million for technical assistance to design the FMSF. In September 1993, DoD agreed to provide Russia up to \$75 million for material, training, and services relating to the construction and operation of the FMSF. In June 1995, DoD agreed to provide construction support and complete design assistance for the FMSF. The U.S. Army Corps of Engineers (the Corps) administers the FMSF construction contract and Bechtel National, Incorporated (Bechtel) is the DoD contractor for design and construction. DTRA estimates the total cost of the FMSF to be \$346.9 million and as of July 2003 had spent

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<sup>1</sup> CTR positions within the Assistant to the Secretary of Defense (Nuclear, Chemical, and Biological Defense Programs) were vacant between 1998 and 2003.

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\$303.6 million on the facility. As of November 2003, the Director of CTR Policy expected construction of the FMSF to be complete by December 2003.

**Containers.** In June 1992, DoD agreed to provide containers to Russia for storing and transporting fissile material. In the implementing agreement for the containers, DoD initially agreed to provide up to 10,000 containers, or a maximum cost of \$50 million. DoD and MINATOM amended the implementing agreement twice, increasing the maximum assistance to \$80.5 million. By December 1998, DoD had purchased 33,293 containers and had delivered 26,456 containers to Russia for storage of fissile materials in the first wing of the FMSF. Of the remaining 6,837 containers, 6,240 that were produced for the second wing are stored in Barstow, California, and the remaining 597 containers cannot be used because they are either obsolete or were destroyed during testing. As of July 2003, DoD spent \$69.2 million on containers.

**Disposal of Russian Chemical Weapons.** In May 1996, DoD agreed to assist Russia in creating a facility to destroy munitions filled with chemical nerve agents. That assistance included developing destruction processes for nerve agents and munitions and the design, construction, equipment, systems integration, training, and start-up of the CWDF. The CWDF project consists of a complex of buildings and structures to destroy 5,460 metric tons of Sarin, Soman, and VX<sup>2</sup> nerve agents that Russia declared under “The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction” January 13, 1993 (the Chemical Weapons Convention). DUSD(TSP&CP) stated that Russian commitments under the Chemical Weapons Convention may limit risks to the CWDF because Russia wants to show that it is a responsible international player through the destruction of its chemical weapons. The CWDF project is being built in Shchuch’ye, Russia, in the Kurgan Oblast. The nerve agents fill nearly 2 million artillery projectiles, 718 bulk-filled Free Rocket Over Ground and Scud<sup>3</sup> warheads, and 136 bomblet-filled SS-21 missile warheads. After the nerve agents are neutralized, Russia plans to encase the neutralized chemicals in a type of asphalt, called bitumen, for long-term storage. Construction of the CWDF started in March 2003. The Corps administers the CWDF construction contract, and Parson Delaware, Inc. (Parsons) is the engineering support contractor. DTRA estimates the total cost of the CWDF to be \$887.3 million and as of July 2003 had spent \$203.9 million on the facility. DTRA expects the CWDF to be operational by September 2008.

## Objectives

Our audit objective was to evaluate CTR projects that rely on Russian assurances and that are vulnerable to misuse. Specifically, we evaluated management of the FMSF and CWDF projects and controls over those projects. See Appendix A for a discussion of the scope and methodology and Appendix B for prior coverage related to the objectives.

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<sup>2</sup> VX is O-Ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate.

<sup>3</sup> Name assigned by the North Atlantic Treaty Organization for the Russian R-17 missile.

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## **Facilities to Store and Dispose of Russia's Weapons of Mass Destruction**

In IG DoD Report No. D-2002-154, we reported that Russia will not use the liquid propellant disposition facility (LPDF) because Russia stated that it had used the liquid propellant for commercial space launches. In IG DoD Report No. D-2003-131, we reported that Russia stated that it had stopped the solid rocket motor destruction facility (SRMDF) project because Russia could not obtain the land allocation. The United States spent \$95.5 million to assist Russia in converting liquid propellant into commercial products and \$99.7 million to assist Russia in designing and constructing the SRMDF.

Similar to the situation with the LPDF project, there are risks that Russia may not provide the types and quantities of fissile material the FMSF was designed to store. Also, similar to the situation for the SRMDF project, there are risks that Russia will rescind the land allocation for the CWDF. In addition, there are risks that delays in obtaining design approvals for the CWDF will delay construction and increase costs, that Russia will not use the designed bituminization building, and that construction and operation of the CWDF will be suspended or terminated because of environmental laws. Those risks exist because implementing agreements lack requirements for Russia to utilize all equipment and facilities provided and to provide the resources, adequate access, and transparency rights required by the United States for verifying that assistance is being used for intended purposes. In addition, DoD did not identify risks or have adequate controls in place to mitigate risks when managing projects. As a result, although DoD has spent \$372.8 million for containers and to design and construct the FMSF and \$203.9 million for the CWDF, Russia may not fully utilize those items to store fissile material and destroy chemical weapons.

### **Management Control Guidance**

Office of Management and Budget Circular No. A-123, "Management Accountability and Control," June 21, 1995, provides guidance to Federal managers for improving the accountability and effectiveness of Federal programs and operations. The circular requires managers to incorporate basic management controls in guidance, plans, procedures, and strategies that govern their programs and operations. It states that the controls shall be consistent with specific standards drawn from the "Standards for Internal Control in the Federal Government," issued by the General Accounting Office, November 1999 (the Standards).

The Standards provide the framework for establishing and maintaining internal controls within the Federal Government. The Standards state that management controls serve as the first line of defense in safeguarding assets. The Standards also state that management needs to identify risks and should consider all

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significant interactions with other parties, as well as internal factors. In addition, the Standards require that control activities, which are an integral part of an entity's planning, implementing, reviewing, and accountability for stewardship of Government resources, help ensure that actions are taken to address risks.

## **Agreements to Purchase Uranium and Dispose of Plutonium**

During the time that DoD agreed to assist Russia with the storage of fissile materials derived from nuclear weapons, the United States was negotiating an agreement to purchase uranium from Russia. Also, while DoD was constructing the FMSF, the United States agreed that Russia could dispose of weapons-grade plutonium stored in the FMSF by using it as fuel in commercial nuclear reactors. The U.S. Department of Energy is overseeing the implementation of both agreements, in conjunction with MINATOM.

**Agreement to Purchase Uranium.** On February 18, 1993, the United States and Russia entered into the "Agreement Between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted From Nuclear Weapons," (Uranium Purchase Agreement). That agreement allows the United States to purchase an estimated 500 metric tons of low enriched uranium that Russia had converted from highly enriched uranium (HEU). The United States would use the uranium as fuel in commercial nuclear reactors.

**Agreement to Dispose of Plutonium.** On September 1, 2000, the United States and Russia entered into the "Agreement Between the Government of the United States of America and the Russian Federation Concerning the Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation," (Plutonium Disposition Agreement). That agreement allows the United States and Russia to each dispose of 34 metric tons of weapons-grade plutonium that was no longer required for defense purposes. Russia declared 25 metric tons of plutonium and 9 metric tons of plutonium oxide. The agreement states that Russia would dispose of the 25 metric tons of plutonium by removing it from the FMSF and using the plutonium in nuclear reactors. No later than December 2007, Russia is to begin disposing of at least 2 metric tons of plutonium a year.

## **Status of Russian Projects**

In IG DoD Report No. D-2002-154, we reported that Russia will not use the LPDF because Russia had used the liquid propellant for commercial space launches. In IG DoD Report No. D-2003-131, we reported that Russia stopped the SRMDF project because Russia could not obtain the land allocation. DoD provided storage containers for fissile material and is designing and constructing the FMSF and CWDF for Russia, but there are risks that Russia will not provide the types and quantities of fissile material the FMSF was designed to store or that it will rescind land allocations for the CWDF. Although the FMSF and CWDF

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projects are ongoing, both contain risks similar to those identified in our audits of the LPDF and SRMDF in that Russia may not use the FMSF and CWDF for their intended purposes. Russian decisions on the amount and types of fissile material to be stored could impact whether DoD assistance for the FMSF is fully utilized. Design approvals, design changes, Russian laws, and court decisions could impact construction and use of the CWDF. As of July 2003, DoD had spent \$576.7 million on the FMSF and CWDF projects.

**Status of the Liquid Propellant Disposition Facility.** In IG DoD Report No. D-2002-154, we reported that in January 2002, officials from the Russian executive agent, the Russian Aviation and Space Agency, verbally informed DTRA that the liquid propellant would not be available for disposal in the LPDF. According to DTRA officials, the U.S. Government had spent \$95.5 million to assist Russia in converting liquid propellant into commercial products. Russia's official response, dated May 24, 2002, was that Russia had used the propellant—initially destined for the LPDF—for commercial space launches. As of November 2003, DTRA stated it was dismantling the hydrogen generators and steam boilers installed in the LPDF and decontaminating and winterizing recoverable portions of the facility at an estimated cost of \$1.5 million.<sup>4</sup> DTRA plans to reutilize the steam boilers on other CTR projects and to ship the hydrogen generators to the Defense Reutilization Marketing Service for reuse or sale.

**Status of the Solid Rocket Motor Disposition Facility.** In IG DoD Report No. D-2003-131, we reported that in January 2003, Russia officially stopped the SRMDF project located in Votkinsk, Russia, because of problems obtaining the land allocation for the facility. A feasibility study for the SRMDF was completed in May 1999 and approved by the Russian Aviation and Space Agency in July 2001. However, according to DTRA officials, the local population in Votkinsk conducted protests for environmental issues that resulted first in delaying the land allocation and ultimately in Russia's decision to stop the project. According to DTRA officials, the U.S. Government spent \$99.7 million to design and begin construction on the SRMDF.

**Status of the Fissile Material Storage Facility.** Although delivery of fissile material containers to Russia was completed in July 1998 and DoD expects to complete construction of the FMSF by December 2003, as of November 2003, Russia had not committed to the amount or types of fissile material it would store in the facility. The FMSF was designed to store 25,344 containers of fissile material, two-thirds containing HEU and one-third containing plutonium.<sup>5</sup> However, in a letter dated April 14, 2003, the Head of the Department of International and Foreign Economic Cooperation, MINATOM stated that Russia would only store plutonium and uranium that Russia determined to be excess to

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<sup>4</sup> In response to the draft of this report, the DUSD(TSP&CP) stated that the \$1.5 million equated to the value of the equipment being dismantled. Later, officials from the CTR Policy office stated that the estimated costs of removing equipment from the LPDF, decontaminating the facility, and winterizing portions of the facility were also \$1.5 million.

<sup>5</sup> In November 2002, DoD and Russia completed a study to determine if the FMSF could handle the heat generated from storing more than the 34 metric tons of plutonium that the FMSF was designed to hold. The results of the study were that the FMSF could safely store 100 metric tons of plutonium (25,000 containers).

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its national security goals. The letter states that Russia will convert surplus HEU into low enriched uranium to be delivered to the United States under the Uranium Purchase Agreement. In addition, the letter states that Russia will store only 25 metric tons of surplus plutonium (6,250 containers) at the facility. The Director of CTR Policy stated that Russia was indecisive on HEU storage at the FMSF because of the Uranium Purchase Agreement. According to the Director, uranium storage requirements at the FMSF will depend on the timing and amount of U.S. uranium purchases under the agreement. The Director of CTR Policy further stated that if Russia does not provide uranium for storage in the FMSF, DoD is exploring the possibility of partitioning the FMSF so that the facility can store plutonium not declared excess to military needs as well as the 25 metric tons of plutonium currently declared excess to military needs.

**Status of the Chemical Weapons Destruction Facility.** Design approvals, design changes, Russian laws, and court decisions could impact the construction and use of the CWDF. Although DoD started submitting design packages to the Russian Federal Directorate for the Safe Storage and Destruction of Chemical Weapons (the Federal Directorate) in March 2001, as of June 2003, Russian subcontractors to Parsons Delaware, Inc. had obtained only 13 of the 38 design approvals required to construct the CWDF. Also, although the CWDF design called for bituminization and storage of the neutralized nerve agents, the Russian Munitions Agency was considering replacing the bituminization process with a process to incinerate the neutralized chemicals. In addition, Russian environmental laws or potential litigation concerning land allocation may prevent DoD from completing construction of, or operating, the CWDF.

**Design Approvals.** According to the DTRA program manager, as of June 2003, the Federal Directorate had not approved 25 of the 38 design packages that the Russian subcontractor submitted for approval. For example, although the design package for the waste storage site was submitted in March 2002, according to the product manager at Army Chemical Demilitarization, the Federal Directorate had not approved the package as of September 2003—18 months later. In May 2003, the CTR Policy office authorized DTRA to begin construction on the facilities. According to officials from the Corps, the Federal Directorate must approve design packages before construction begins on each package. Corps officials attribute the approval delays to Russian bureaucracy, which ultimately affect the construction schedule and costs.

**Design Changes.** In December 1996, DoD and Russia developed a plan to destroy neutralized nerve agents at the CWDF by bituminization. The CWDF design includes a bituminization building and 12 waste storage bunkers. In a March 2003 meeting with CTR Policy officials, the Director of the Russian Munitions Agency stated that Russia was considering incineration to destroy the neutralized nerve agents. However, incineration of the nerve agent would be inconsistent with the original joint plan to destroy the neutralized nerve agents at the CWDF by bituminization. The Director, CTR Policy informed IG DoD staff that if Russia decides to incinerate the neutralized nerve agent, Russia must fund the incineration facility itself. According to an official at Army Chemical Demilitarization, as of July 2003, DoD had spent \$1.1 million to design the bituminization building.

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**Environmental Laws.** On March 6, 2002, the Kurgan Region Committee for Natural Resources' State Environmental Expert Review Board (the Board) issued an opinion allowing construction of the CWDF. However, the Board may suspend or terminate CWDF construction, commissioning, or operations based on Article 66 of Russian Federal Law No. 7-FZ, "On Environmental Protection," January 10, 2002. That Article allows environmental protection inspectors from the Russian states to issue demands and orders directing legal entities and individuals to remedy violations of environmental protection legislation and to suspend economic and other operations if such operations are conducted in violation of environmental protection legislation.

Also, in the March 6, 2002 opinion, the Kurgan Region Committee for Natural Resources found that the Russian subcontractor had changed its design concepts in the working documents for the water drawdown<sup>6</sup> of the industrial area and the waste storage site from the design concepts approved by the Board. The initial design for the water drawdown was calculated at about 1,000 cubic meters. However, according to the product manager for Army Chemical Demilitarization, the use of better models in calculating the water drawdown resulted in a revised calculation of 1,900 cubic meters during final design documentation preparation. The Board concluded that the change in the initial design concepts violated Russian environmental protection regulations and procedures. The Board also found that there were no design concepts on the discharge and treatment of the drainage runoff from the waste storage site after use of the facility is discontinued.

Although the design of the water drawdown was not acceptable to the Board, the Board recommended the temporary implementation of the proposed design during construction of the CWDF. However, in the Board's opinion, the subcontractor is required to revise the working documents related to the interception and treatment of the drainage runoff before the CWDF is allowed to start operating. In addition, the subcontractor must develop an integrated ecological monitoring system to obtain more accurate data on the qualitative composition of the ground water. If the Board does not accept the revisions, the CWDF cannot become operational and be used to destroy Russia's nerve agents. According to the DTRA program manager, in April 2003, Parsons and the Kurgan Region Committee for Natural Resources agreed to a plan to resolve the water drawdown design issue by setting milestones for completing required activities. As of November 2003, DTRA had prepared a detailed plan, reviewed environmental requirements for the disposition of ground water, and awarded a subcontract for performing the hydrology work.

**Potential Litigation.** Although the Governor of the Kurgan Oblast granted a general land allocation for the CWDF in March 2000, concerns over the transportation of nerve agents into Shchuch'ye may cause the Governor to take action to suspend the land allocation for the CWDF. According to a Russian newspaper, *Ural-Press Inform*, the local population and Kurgan Oblast officials were upset after they learned of the plans to transport nerve agents to Shchuch'ye. The newspaper quoted the chairman of the Shchuchanskii Natural Resources Committee as saying "the [Russian] government deceived us" when it adopted

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<sup>6</sup> Drainage system for lowering the ground water level.

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Resolution No. 510<sup>7</sup> and the November 2001 amendment to the Russian law on the destruction of nerve agents. According to the newspaper article, the head of the Shchuchanskii municipality stated that the amendment to the law was adopted in an emergency manner, without taking into account the interest of local residents. However, Article 13 of the Russian law on environmental protection states that when making decisions on where to locate facilities with operations that may have an environmental impact, public opinion should be taken into account. Thus, the head of the municipality may use Article 13 to lobby the Governor to stop the shipment of nerve agents to the Shchuch'ye area or to suspend the land allocation. If the shipment of nerve agents is stopped, the CWDF will not be fully utilized. If the Kurgan Oblast suspends the land allocation, DoD risks losing its investment. According to the DTRA program manager, DoD hopes to obtain favorable public opinion through the use of its public outreach program.

In a March 18, 2003, amendment to the implementing agreement, Russia agreed to eliminate all of its nerve agents at the CWDF. However, the DTRA program manager and the product manager at Army Chemical Demilitarization confirmed that local governments could use the courts to suspend or render null and void the land allocation for the CWDF. The product manager for Army Chemical Demilitarization stated that it was unlikely that the land allocation would be withdrawn because the region is economically depressed and the CWDF project would provide jobs and revenue. That is similar to what DTRA managers believed in reference to the SRMDF project. The municipality where the SRMDF was to be built, Votkinsk, was also economically depressed and the SRMDF project would have provided jobs and revenue. However, although DoD spent \$99.7 million on the SRMDF, Russia stated that it was unable to obtain the land in Votkinsk. Therefore, economically depressed conditions are no guarantee that Russia will not suspend the land allocation for the CWDF.

## Agreements

CTR construction projects are at risk of not being fully utilized for their intended purpose because agreements with Russia do not adequately protect U.S. interests and DoD did not mitigate risks by defining requirements and providing adequate access and transparency rights. Specifically, the implementing agreements do not require Russia to utilize all equipment and facilities provided by DoD or to provide the materials for destruction or storage. The agreements also do not provide for adequate access and transparency rights required by the United States to verify that assistance is being used for intended purposes.

**Strategic Offensive Arms Elimination-Russia Implementing Agreement.** In IG DoD Report No. D-2002-154 and Report No. D-2003-131, we reported that the LPDF and SRMDF projects were managed under an agreement commonly

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<sup>7</sup> Title 22, section 5952, United States Code, requires Russia to pass a law allowing elimination of all nerve agents at a single site before DoD starts construction on a facility to destroy chemical weapons. On July 5, 2001, Russia adopted Resolution No. 510, allowing chemical weapons from other depots to be brought to and destroyed in Shchuch'ye.

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referred to as the Strategic Offensive Arms Elimination-Russia Implementing Agreement (SOAE-Russia Agreement). At the time of our reports, the SOAE-Russia Agreement did not specifically include U.S. assistance to build the LPDF or to destroy solid rocket motors. The liquid propellant annex to the SOAE-Russia Agreement states that DoD will provide equipment, services, and training so that Russia can incinerate the liquid propellant and its oxidizer. However, in April 1994, DoD agreed to finance facilities that would convert the propellant into commercial products. Also, the SOAE-Russia Agreement did not identify a project to build a facility to destroy solid rocket motors. According to officials from the Office of the Under Secretary of Defense for Policy, the SRMDF project was justified as a result of specifications in the SOAE-Russia Agreement that DoD would assist Russia with the elimination of its intercontinental ballistic missiles. The SOAE-Russia Agreement also did not require Russia to provide the resources necessary for destroying its solid rocket motors. In September 2003, the DUSD(TSP&CP) secured an amendment to the SOAE-Russia implementing agreement that includes U.S. assistance to disassemble and store solid rocket motors and Russia's commitment to use the assistance.

**Fissile Material Implementing Agreement.** The FMSF Agreement describes DoD and MINATOM responsibilities for the FMSF. However, it does not provide assurances that Russia will provide or store eligible fissile material<sup>8</sup> in the FMSF. In addition, the FMSF Agreement does not provide transparency rights to DoD that would provide confidence that the types and quantities of fissile material that will be stored at the FMSF are eligible fissile material.

**Storage of Fissile Material.** While the FMSF Agreement states that DoD will provide materials, training, and services to Russia for design assistance, construction, construction support, and operation of the FMSF, that agreement does not require or specify that Russia will store any amount or types of fissile material in the FMSF. In addition, the FMSF Agreement is with the Russian executive agent MINATOM, but according to the Director for CTR Policy, nearly 40 percent of the fissile material intended to be stored at the FMSF is in the custody of the Russian Ministry of Defense. As of November 2003, the FMSF Agreement did not require MINATOM to obtain the fissile material from the Ministry of Defense, and DoD did not have a separate agreement for obtaining the fissile material from the Ministry of Defense. As such, DoD does not have adequate assurance that Russia will provide or store any amount or types of eligible fissile material in the FMSF.

**Management Actions Taken.** In early 2002, following Russia's admission that it had used the liquid propellant intended for the LPDF in its space program, DoD determined that it needed a written commitment from the Russian government stating Russia's plans for storing the fissile material in the FMSF. According to the cable from the August 2002 Executive Review, MINATOM officials verbally agreed to amend the FMSF Agreement to commit Russia to storing 34 metric tons of eligible plutonium (8,500 containers) in the FMSF, but MINATOM officials did not know how much HEU Russia would store in the

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<sup>8</sup> DoD considers eligible fissile material to consist of plutonium with an isotopic ratio of Plutonium-240 to Plutonium-239 of no more than 0.1 and uranium with an average assay of 90 percent or greater of the uranium isotope 235.

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facility. In December 2002, DoD proposed an amendment to the FMSF Agreement requiring MINATOM to store at least 34 metric tons of eligible plutonium and an unspecified amount of eligible HEU in the FMSF. At the January 2003 Executive Review that was attended by representatives from the IG DoD, MINATOM officials stated that they could not commit to an amount of plutonium or HEU that Russia would store in the facility without concurrence throughout the Russian government. In addition, they stated there was no need for an amendment to the FMSF Agreement because the facility was already 90 percent complete.

After the January 2003 Executive Review, the DUSD(TSP&CP) expressed concern over Russia's reluctance to conclude the proposed amendment to the FMSF Agreement. In a letter dated April 10, 2003, to the Director, Department of International and External Economic Cooperation at MINATOM, the DUSD(TSP&CP) requested that DoD and MINATOM conclude the proposed amendment by April 25, 2003. By June 2003, the DUSD(TSP&CP) had not received a response from Russia. Thus, on June 19, 2003, the Deputy Secretary of Defense sent a letter informing the Minister of MINATOM that DoD would consider suspending CTR assistance to MINATOM if an agreement could not be reached on the proposed amendment by the end of June 2003. In a letter dated July 1, 2003, the Minister stated that:

The very title of the [Fissile Material] agreement reflects our responsibilities with respect to the use of the FMSF. It is being constructed for the storage of "fissile materials derived from the destruction of nuclear weapons."

The Minister also stated that Russia planned to store 25 metric tons of plutonium (6,250 containers) in the FMSF, but the 9 metric tons of plutonium oxide produced by nuclear reactors would be stored at other Russian facilities. In addition, he stated that the 25 metric tons of plutonium would decrease if the Plutonium Disposition Agreement commenced by 2005 or 2006. The Minister stated that Russia was reprocessing HEU into low enriched uranium for delivery to the United States under the Uranium Purchase Agreement. Therefore, according to the Minister's response, if Russia stores 25 metric tons of plutonium and no HEU in the FMSF, only one-fourth of the containers and storage capacity of the FMSF would be used. In addition, when Russia begins removing the plutonium from the FMSF under the Plutonium Disposition Agreement, there will be additional excess storage space at a rate of at least 2 metric tons per year.

**Transparency Agreement.** As of November 2003, the FMSF Agreement did not provide transparency rights for DoD once construction of the FMSF was complete, as recommended by the "Report of the Committee on National Security, House of Representatives on H.R. 1119," June 16, 1997. In that report, the committee stated that the most significant uncertainty of the FMSF project was the lack of any transparency agreements that would allow the United States to verify the quantity and type of fissile materials stored at the FMSF. In addition, the committee believed that continuing to fund the FMSF without a formal agreement that clarified and codified U.S. rights weakened the U.S. negotiating position. Therefore, the committee recommended a provision that would prohibit the obligation of FY 1998 funds for the FMSF until a transparency agreement

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with Russia was signed. Public Law 105-85, section 1407(2), “National Defense Authorization Act for FY 1998,” states that CTR funds cannot be obligated or expended for planning, design, or construction of a storage facility for Russian fissile material until 15 days after the Secretary of Defense notifies Congress that the United States and Russia have entered into an agreement incorporating the principle of transparency with respect to the use of the facility.

The Secretary of Defense notified Congress on August 8, 1999, that DoD had reached an agreement with MINATOM incorporating the principle of transparency with respect to the use of the facility. The notification to Congress included a “Report on Mayak Fissile Material Storage Facility Transparency,” discussing the requirement in Public Law 105-85 for a transparency agreement. The report states that in January 1996 at a session of the Gore-Chernomyrdin Commission, the then-Secretary of Defense and then-Minister of Atomic Energy signed a status report that reaffirmed the requirement for transparency measures at the FMSF. The report also stated that DoD and MINATOM were near completion of a protocol to the FMSF Agreement that would provide transparency measures at the FMSF. However, as of November 2003, more than 7 years later, the protocol had not been completed.

DoD and MINATOM began negotiations to include transparency measures in the FMSF Agreement in October 1997. U.S. negotiation objectives had been to ensure that the fissile material stored at the FMSF came from dismantled nuclear weapons, that the material would be safe and secure, and that the material would not be used again for nuclear weapons. According to CTR Policy officials, as of July 2003, there have been 17 rounds of discussions on transparency measures at the FMSF. By August 1999, after seven rounds of discussions, DoD and Russia agreed on procedures for ensuring that the fissile materials would be safe and secure and would not be used again for nuclear weapons. Transparency measures were never reached for the objective that the fissile material came from dismantled nuclear weapons. The Director of CTR Policy stated that as a result of a National Security Council decision document, DoD changed that negotiation objective to an objective that fissile material stored at the FMSF is weapons grade material. However, as of November 2003, DoD and MINATOM had not reached an agreement allowing the United States transparency rights at the FMSF.

**Chemical Weapons Implementing Agreement.** Although in December 1996 DoD and Russia developed a plan to destroy neutralized nerve agents at the CWDF by bituminization, the CWDF Agreement does not require Russia to destroy nerve agents through the designed bituminization process. In addition, the agreement does not require Russia to provide all the necessary approvals for construction in a timely manner. Further, the agreement limits Russia’s responsibility to using materials and services provided exclusively for the purpose of creating the CWDF and to ensuring that Russian officials expeditiously process materials for delivery to their ultimate destination in Russia.

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## Risk Management

DoD did not identify risks or have adequate controls in place to mitigate risk when managing projects. Although DTRA began preparing annual project plans in 1996 for CTR projects, project plans did not include risks until 2000. Even then, project plans did not always identify significant risk factors, assign adequate levels of risk, or adequately address efforts to mitigate risk. Identifying risks and taking steps to mitigate them prior to initiating a project will ensure better stewardship of Government resources.

**Liquid Propellant Disposition Facility and Solid Rocket Motor Disposition Facility Project Plans.** In IG DoD Report No. D-2002-154 and Report No. D-2003-131, we reported that DTRA did not adequately identify the risks associated with the LPDF and SRMDF projects in its project plans. As early as December 1992, Russian officials had informed DoD officials of plans to use some of the liquid propellant from ballistic missiles for space launches. In 2000, DTRA began including general and specific risks in its project plans, which DTRA updated annually. Although the project plans prepared since 2000 for the LPDF and SRMDF identified several risks, the LPDF plans never identified the risk that Russia might use the propellant for other purposes, and the SRMDF plan did not identify land allocation as a risk until 2002.

**Risks to the Utilization of the Fissile Material Storage Facility.** DTRA did not adequately identify the risks associated with the use of the FMSF in any of its FMSF project plans through 2003. Specifically, those project plans did not identify that Russia may not store amounts and types of fissile material at the FMSF that the facility was designed to hold. Although that risk existed from the beginning of the FMSF project because implementing agreements for the project did not commit Russia to storing specific types or amounts of fissile material, the risk increased in February 1993, when the United States agreed to purchase 500 metric tons of uranium from Russia. According to the November 2000 FMSF project plan, Russian officials informed DoD that Russia would not store HEU in the FMSF because of the Uranium Purchase Agreement. While the facility was designed to store 268 metric tons of HEU and 34 metric tons of plutonium, the U.S. General Accounting Office reported that U.S. agencies were unable to confirm Russia's fissile material storage needs.<sup>9</sup> Officials from CTR Policy and DTRA stated that they did not know how the storage capacity of the FMSF was determined.

DoD efforts to mitigate the risk were limited. DoD took no action to suspend or stop the FMSF project, pending a commitment from Russia to store HEU and plutonium at the facility. According to DoD and DTRA records, DoD first attempted to obtain a commitment from Russia in 2002, however, through November 2003, DoD has been unable to obtain a commitment. After Russia informed DoD that HEU would not be stored at the FMSF, DTRA took action to ensure that the FMSF would be able to store additional plutonium. Specifically, DTRA sponsored a study to determine if the FMSF could handle the additional

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<sup>9</sup> Report No. NSIAD-99-76, "Weapons of Mass Destruction: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned," April 13, 1999.

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heat generated from the plutonium. The study determined that although the FMSF was designed to store up to 34 metric tons of plutonium, the facility is capable of storing 100 metric tons of plutonium. Had DoD considered the Uranium Purchase Agreement and attempted to obtain the commitment earlier in the project, DoD may have had more assurance that Russia would fully utilize the FMSF for its intended purpose.

**Risks to the Utilization of the Chemical Weapons Destruction Facility.**

DTRA did not identify all significant risk factors or assign adequate levels of risk when assessing the CWDF project. Although DTRA identified cost, schedule, performance, and partnering with Russia as risk factors in its project plans for 2000 through 2002, it did not identify environmental concerns or Russian laws as risks. In addition, for the risk factors identified, DTRA evaluated those factors as low risk. For example, in its project plans for 2000 through 2002, DTRA rated partnering with Russia as a low risk, even though the CWDF project depends on Russia's construction of social infrastructure and utilities. DTRA also rated the schedule as low risk in its project plans for 2000 through 2002 even though DoD was prohibited from obligating or expending FY 2000 or future CTR funds until the Secretary of Defense certified to Congress that Russia was complying with conditions in Public Law 106-65, "National Defense Authorization Act for FY 2000." DoD was unable to obligate or expend FY 2000 through FY 2003 appropriations to plan, design, or construct the CWDF until the President waived the conditions on January 10, 2003, as authorized by Public Law 107-248, "Department of Defense Appropriations Act for FY 2003."

## Project Cost

DoD investments in facilities to assist Russia with its weapons of mass destruction will either not be used or are at risk of not being fully used by Russia. As of July 2003, DoD has spent \$372.8 million for containers and to design and construct the FMSF and \$203.9 million for the CWDF, but Russia may not fully utilize those items to store fissile material and destroy chemical weapons as planned. That situation is similar to U.S. efforts to assist Russia in converting liquid propellant into commercial products, which cost the United States \$95.5 million, and destroying solid rocket motors, which cost the United States \$99.7 million.

**Fissile Material Storage Cost.** The \$372.8 million U.S. investment in the FMSF and fissile material containers is at risk because Russia has not committed to the quantity or types of fissile material to be stored in the facility, nor have they agreed on transparency measures at the facility. Therefore, DoD does not have assurance that the facility will be fully utilized or that Russia will store only eligible fissile materials. Had DoD obtained commitments from MINATOM on the quantity and types of fissile material to be stored in the facility in 1995 when the FMSF Agreement was amended for construction, DoD would have more assurance that Russia will fully utilize the FMSF to store eligible fissile material. Also, had DoD and MINATOM agreed on transparency measures before DoD obligated and spent FY 1998 funds, as noted by the House Committee on National Security, DoD would be in a better position to negotiate transparency rights.

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**Chemical Weapons Destruction Cost.** The \$203.9 million U.S. investment for the CWDF is at risk because of potential CWDF construction delays and the potential that Kurgan Oblast officials will rescind the land allocation. As DTRA continues construction, additional funds will be at risk. For example, delays in approving design packages could impact the prime construction period in Siberia, which can have severe winters. Those delays could put DoD in a position of expending more funds to work year-round in order to complete construction, which, according to the DTRA program manager, is scheduled for December 2006. The DTRA program manager also stated that although waste storage bunkers will still be required if the Munitions Agency incinerates the neutralized chemicals, the \$1.1 million spent to design the bituminization building will be lost. Additional funds could be lost if the Governor of the Kurgan Oblast rescinds the land allocation or the environmental inspectors suspend construction of the CWDF over the water drawdown design. DoD could potentially lose all funds spent from project initiation through the date the allocation is rescinded or the suspension occurs. In addition, under the terms of the contract to construct the CWDF, DoD would be obligated to pay settlement costs for terminating the contract and would also incur expenses to remove and dispose of equipment and materials used or installed at the facilities.

## **Prior Report Recommendations and Management Actions Taken**

**Liquid Propellant Disposition Report.** In IG DoD Report No. D-2002-154, we recommended that the Under Secretary of Defense for Policy negotiate amendments to CTR Program implementing agreements with Russia to ensure that weapons systems and their components are provided, that adequate access rights are granted to DoD, and that remedies are in place if Russia fails to use the assistance provided by DoD. We also recommended that the Under Secretary of Defense for Policy implement risk mitigation in achieving CTR program objectives, request that Russia use the proceeds from the sale of the liquid propellant for CTR Program purposes, and expedite a determination of the future of the LPDF. We recommended that the Director, DTRA perform more complete inspections of equipment provided to Russia, identify potential alternative uses for weapons material when the United States anticipates making significant investments in facilities to destroy or convert weapons materials, and to report to the Under Secretary of Defense for Policy annually, or as needed, any risks to achieving program objectives.

The DUSD(TSP&CP) and the Director, DTRA concurred with the recommendations. As of November 2003, the DUSD(TSP&CP) secured amendments to two implementing agreements with Russia—the SOAE-Russia Agreement and the Chemical Weapons Agreement. The amendments to the SOAE-Russia Agreement commit Russia to using storage facilities provided by DoD for storing solid rocket motors and commit the Russian Aviation and Space Agency to meeting semi-annually with DoD to certify a plan that describes assumptions, requirements, and responsibilities for CTR projects under the SOAE-Russia Agreement. The amendments to the Chemical Weapons Agreement commit Russia to eliminating all nerve agents at the CWDF and to

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complete a practical plan for their destruction by March 2004. Those amendments, however, do not include remedies for Russian nonperformance because the DUSD(TSP&CP) stated that including remedies in implementing agreements might not be beneficial from a policy perspective. On February 4, 2003, the Deputy Secretary of Defense approved the dismantlement and salvage of the LPDF. On February 27, 2003, the Director, DTRA sent a report to the DUSD(TSP&CP) that identified risks to achieving CTR program objectives. For the FMSF, the risks included construction delays and the lack of a transparency agreement. For the CWDF, the risks included resolution of legislative requirements.

**Solid Rocket Motor Report.** In IG DoD Report No. D-2003-131, we recommended that the DUSD(TSP&CP) prepare and negotiate a written implementing agreement with the Russian executive agent to establish the responsibilities and commitments of each party for the disposal of solid rocket motors. We also recommended that the DUSD(TSP&CP) expedite the determination of the future of the facilities and equipment purchased for the SRMDF project. We recommended that the Director, DTRA prepare written acquisition plans prior to issuing solicitations and contracts for CTR projects and design and implement a milestone decision review and program baseline process. We also recommended that the Director, DTRA ensure that project managers maintain all necessary documents and correspondence.

The DUSD(TSP&CP) and Director, DTRA concurred with the recommendations. On September 25, 2003, the DUSD(TSP&CP) secured an amendment to the SOAE-Russia implementing agreement that commits Russia to eliminating a set amount of solid rocket motors in 2004 and 2005 and to work toward establishing a schedule for eliminating the remaining rocket motors. For the facilities and equipment purchased for the SRMDF project, the Deputy Under Secretary stated that DTRA is implementing its SRMDF infrastructure closeout plan, and acknowledged that it is taking longer than expected to analyze options for the two buildings at the project site. The Director, DTRA stated that since 2001, DTRA has been preparing acquisition plans before issuing solicitations and contracts for CTR projects and would continue the practice. In reference to designing and implementing a milestone decision review and program baseline process, the Director, DTRA stated that in 2000, DTRA began using contracts that provide decision points and later implemented phased contracting, which provides even more decision points during project execution. The Director also commented that DTRA recently established a process for major acquisition programs, including one CTR project—the CWDF. Although not required to comment, the Assistant to the Secretary of Defense (Nuclear and Chemical and Biological Defense Programs) agreed with our recommendation and stated that the new Deputy Assistant to the Secretary of Defense for Chemical Demilitarization and Threat Reduction is discussing the mechanics of a new, broader CTR decision process. DTRA is developing a training program to ensure that project managers maintain necessary documents and that they keep a record of contracting actions and significant conversations with representatives of former Soviet Union countries.

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## Conclusions

Two current CTR projects, the FMSF and CWDF, are at risk of meeting the same fate as two other CTR projects that we reported on, the LPDF and SRMDF. The FMSF is at risk because MINATOM refused to commit to storing any quantity or type of fissile material in the FMSF, and DoD and Russia have not reached a transparency agreement that would allow DoD to monitor the contents of the facility. The CWDF is at risk because under Russian law, the Kurgan Oblast can rescind the land allocation for environmental reasons.

DoD could have better managed the risks associated with those projects in order to protect investments and reduce costs. The agreements should have contained specific requirements that give Russia more responsibility for the storage and elimination of Russian weapons of mass destruction. In addition, DTRA needs to ensure that adequate controls are in place to identify and mitigate risks when managing CTR projects. For future CTR projects, DoD should negotiate implementing agreements up front that require Russia to provide the United States with all the necessary resources to assure that assistance is used for intended purposes. By requiring written commitments from Russia before a project starts, DoD will be in a better position to protect its investments.

As a result of Russia not using DoD assistance for the LPDF and SRMDF projects, the Report of the Committee on Armed Services, House of Representatives, on H.R. 1588, for the “National Defense Authorization Act for FY 2004,” proposed limitations on the use of CTR funds until all required permits are obtained. Public Law 108-136, “National Defense Authorization Act for FY 2004,” requires the Secretary of Defense to determine the number and type of permits that may be required for the lifetime of projects and to obtain any permits that may be required to commence construction before DoD obligates more than 40 percent of the total costs of new or incomplete CTR construction projects. Regarding ongoing, incomplete CTR construction projects, the Secretary of Defense must identify all the required permits no later than 120 days after enactment of Public Law 108-136. However, the limitation would not apply if the Secretary of Defense determines that it is in the national interest to obligate funds for a particular project and provides notice to the congressional Defense committees of the intent to obligate funds, along with complete justification. In addition, by the first Monday in February of each year, Public Law 108-136 requires that the Secretary of Defense submit a certification to Congress that each facility constructed with CTR funds will be used for its intended purposes and that Russia remains committed to the intended use of the facility.

## Recommendations, Management Comments, and Audit Response

**Revised Recommendation.** As a result of congressional legislation, we revised Recommendation 1.a(2)(a) to reflect the requirement that the Secretary of Defense determine and obtain all permits before obligating 40 percent of the total cost on each CTR project.

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**1. We recommend that the Deputy Under Secretary of Defense (Technology Security Policy and Counterproliferation):**

**a. Negotiate amendments to Cooperative Threat Reduction Program implementing agreements that require:**

**(1) A written agreement from the Ministry of Defense that outlines the types and quantities of fissile material to be provided for storage at the fissile material storage facility.**

**Management Comments.** DUSD(TSP&CP) concurred but stated that the written agreement should be with MINATOM. DUSD(TSP&CP) further stated that DoD is negotiating an amendment to the FMSF implementing agreement with MINATOM that will satisfy the recommendation. DUSD(TSP&CP) expects the amendment to be signed in December 2003.

**Audit Response.** Although DUSD(TSP&CP) concurred with the recommendation, the comments were not fully responsive. While an agreement with MINATOM to outline the quantities and types of fissile material to be stored at the FMSF is necessary, DUSD(TSP&CP) did not address the recommendation. We made the recommendation because a significant amount of fissile material is in the custody of the Ministry of Defense and DoD does not have an agreement with the Ministry of Defense to obtain the fissile material for storage. The FMSF situation is also similar to the LPDF project. For the LPDF project, DoD had an agreement with the Russian Aviation and Space Agency to construct a facility to convert liquid rocket propellant, which was controlled by the Ministry of Defense, into commercial products. However, according to officials from the Russian Aviation and Space Agency, the Ministry of Defense informed them that Russia had used the propellant for its commercial space program. An additional commitment from the Ministry of Defense that outlines the types and quantities of fissile material to be provided for storage in the FMSF would provide DoD further assurance that Russia will use the facility for its intended purposes. In response to the final report, we request that DUSD(TSP&CP) readdress the recommendation to obtain an agreement from the Ministry of Defense.

**(2) The Russian Munitions Agency to:**

**(a) Obtain from the Russian Federal Directorate all necessary design package approvals for the chemical weapons destruction facility, prior to DoD expending more than 40 percent of the total cost of the facility.**

**Management Comments.** DUSD(TSP&CP) nonconcurred with the draft recommendation. While DUSD(TSP&CP) agreed in principle, she stated that a monetary cap would increase project costs without limiting risks. DUSD(TSP&CP) stated that although DTRA has already expended nearly 35 percent of the total CWDF cost, there is no overall project risk resulting from the failure of local Russian governments to approve over 50 design packages. DUSD(TSP&CP) stated that problems with permits required for design packages would not lead to suspension of overall construction. Rather, deficiencies with

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individual design packages would involve specific compliance issues with building codes that could be rectified when they occur.

**Audit Response.** The comments from DUSD(TSP&CP) were not responsive. While delays in obtaining design package approvals and related permits may not lead to suspension of the overall construction, any needed design changes could result in increased costs and schedule delays. Recent congressional legislation recognized the need to reduce this risk. For new and incomplete construction projects, Public Law 108-136, “National Defense Authorization Act for FY 2004,” requires that the Secretary of Defense determine and obtain the number and type of permits that may be required for the lifetime of the projects before obligating more than 40 percent of the total cost of the project. For ongoing construction projects that are incomplete, the Secretary of Defense must identify the permits no later than 120 days after enactment of the law. The funding limitation does not apply to projects that the Secretary of Defense determines are in the national interest and necessary and submits a notification of intent to obligate funds to congressional Defense committees, along with a justification. We revised the draft recommendation to reflect the 40 percent requirement in Public Law 108-136. In response to the final report, we request that DUSD(TSP&CP) comment on the revised recommendation.

**(b) Resolve concerns over the transportation of chemical weapons into the Kurgan region with Kurgan Oblast officials and the local populace.**

**Management Comments.** DUSD(TSP&CP) did not comment on the recommendation. We request that DUSD(TSP&CP) provide comments in response to the final report.

**(c) Commit to the bituminization process, as originally planned.**

**Management Comments.** DUSD(TSP&CP) did not comment on the recommendation. We request that DUSD(TSP&CP) provide comments in response to the final report.

**b. Reach a transparency agreement with the Ministry of Atomic Energy for the fissile material storage facility before the facility’s scheduled operational date of December 2003.**

**Management Comments.** DUSD(TSP&CP) concurred with the recommendation and stated that Policy is working diligently to secure an agreement that will permit long-term monitoring of materials placed in the FMSF.

**Audit Response.** The comments from DUSD(TSP&CP) were partially responsive. Although the FMSF is scheduled to be complete in December 2003, DUSD(TSP&CP) did not provide a date when the transparency agreement would be signed. In response to the final report, we request that DUSD(TSP&CP) provide a copy of the transparency agreement, signed by MINATOM.

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**2. We recommend that the Director, Defense Threat Reduction Agency issue a modification to the chemical weapons destruction facility contract that will provide for the additional work required to resolve the water drawdown issue.**

**Management Comments.** The Director, DTRA concurred and provided a list of tasks that the contractor must comply with in order to meet Russian environmental regulations. As of November 9, 2003, the contractor had prepared a detailed plan, reviewed environmental requirements for the disposition of ground water, and awarded a subcontract for performing the hydrology work.

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## Appendix A. Scope and Methodology

We reviewed DoD methods and policies used to administer the CTR program, which included program, project, and financial management. The review included provisions of Nunn-Lugar legislation, international agreements, DoD and DTRA directives relating to program management, an engineering management support contract, and the Chemical Weapons Convention. We also reviewed Kurgan Region Administration (Government) Decree No. 17-p; Shchuch'ye Area Administration Kurgan Region Decree No. 54-p; Inspection State Architectural and Construction Oversight, Russian Ministry of Defense Permit No. 001.04.1.11 for Construction and Installation; Federal Directorate for the Safe Storage and Destruction of Chemical Weapons, Russian Munitions Agency Permit for Construction No. 1-2002; Kurgan Region Construction Permit No. 18; Kurgan Region Administration (Government) Resolution No. 153; the Government of the Russian Federation Resolution No. 510; and Russian Federal Law No. 7-FZ, "On Environmental Protection." The documentation reviewed was dated from July 1991 through September 2003.

We performed a risk assessment to identify CTR projects in Russia for review. The risk assessment included a review of CTR project plans to identify and evaluate project risks reported by DTRA and to identify unreported risk factors. We combined the risk factors identified in CTR project plans with the unreported risk factors and assigned a rating to determine which projects presented the greatest risk of not being used for their intended purposes.

We conducted interviews with officials from the Office of the Under Secretary of Defense for Policy, DTRA, the Corps, Russian officials, and representatives from U.S. contractors. We also visited Russia to review contract files and observe work performed at the CWDF construction site.

We performed this audit from October 2002 through November 2003 in accordance with generally accepted government auditing standards.

We relied on the interpretation and translation skills of individuals employed by U.S. contractors when meeting with Russian officials and reviewing translations of Russian documents.

**Use of Computer-Processed Data.** We did not evaluate the general and application controls of the Centralized Accounting and Financial Resource Management System, which accounts for DTRA funds, because that was outside the scope of our review. To support the amount that the United States spent for the CWDF and the FMSF projects, we relied on data from that system. Inadequate controls in the Centralized Accounting and Financial Resource Management System could affect the disbursements included in this report.

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## Management Control Program Review

DoD Directive 5010.38, "Management Control (MC) Program," August 26, 1996, and DoD Instruction 5010.40, "Management Control (MC) Program Procedures," August 28, 1996, require DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

**Scope of the Review of the Management Control Program.** We reviewed the adequacy of management controls within the CTR Program at DTRA. Specifically, we reviewed management controls over project management. We also reviewed management's self-evaluation applicable to those controls.

**Adequacy of Management Controls.** We identified material management control weaknesses within the CTR Program as defined by DoD Instruction 5010.40. Management controls over the CTR Program were not adequate to ensure that facilities constructed to aid Russia in the storage and destruction of weapons of mass destruction are used for their intended purpose. If implemented, the recommendations will correct the identified weaknesses and could result in better protection of the \$576.7 million investment by the United States. A copy of the report will be provided to the senior official responsible for management controls in the CTR Program at the Defense Threat Reduction Agency.

**Adequacy of Management's Self-Evaluation.** DTRA identified the CTR Program as an assessable unit and, in our opinion, correctly identified CTR international agreements and CTR property management as material management control weaknesses. However, DTRA did not report CTR construction management as having management control weaknesses. Although we identified the material weakness, we are making no recommendations because IG DoD Report No. D-2002-154 and IG DoD Report No. D-2003-131 contain recommendations to CTR Policy and DTRA that should correct the material weakness identified in this report.

DTRA identified and reported the material management control weakness for international agreements identified in our audit. The Office of The Under Secretary of Defense for Policy, which is the office responsible for authorizing the negotiation and conclusion of international agreements, developed procedures to correct the weakness.

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## Appendix B. Prior Coverage

During the last 5 years, the General Accounting Office (GAO) and the IG DoD have issued 16 reports discussing the Cooperative Threat Reduction Program, including congressional testimonies. Unrestricted GAO reports can be accessed over the Internet at <http://www.gao.gov>. IG DoD reports can be accessed at <http://www.dodig.osd.mil/audit/reports>.

### GAO

GAO Report No. GAO-03-1008R, "FY 2004 Annual Report on the Cooperative Threat Reduction Program," July 18, 2003

GAO Report No. GAO-03-627R, "FY 2003 Annual Report on the Cooperative Threat Reduction Program," April 8, 2003

GAO Report No. GAO-03-526T, "Weapons of Mass Destruction: Observations on U.S. Threat Reduction and Nonproliferation Programs in Russia," March 5, 2003

GAO Report No. GAO-03-341R, "Cooperative Threat Reduction Program Annual Report," December 2, 2002

GAO Report No. GAO-01-694, "Cooperative Threat Reduction: DoD Has Adequate Oversight of Assistance, but Procedural Limitations Remain," June 19, 2001

GAO Report No. NSIAD-00-138, "Biological Weapons: Effort to Reduce Former Soviet Threat Offers Benefits, Poses New Risks," April 28, 2000

GAO Report No. NSIAD-00-40, "Cooperative Threat Reduction: DoD's 1997-98 Reports on Accounting for Assistance Were Late and Incomplete," March 15, 2000

GAO Report No. T-NSIAD/RCED-00-119, "Weapons of Mass Destruction: U.S. Efforts to Reduce Threats From the Former Soviet Union," March 6, 2000

GAO Report No. RCED/NSIAD-00-82, "Nuclear Nonproliferation: Limited Progress in Improving Nuclear Material Security in Russia and the Newly Independent States," March 6, 2000

GAO Report No. NSIAD-99-76, "Weapons of Mass Destruction: Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned," April 13, 1999

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## **IG DoD**

IG DoD Report No. D-2003-131, "Cooperative Threat Reduction Program: Solid Rocket Motor Disposition Facility Project," September 11, 2003

IG DoD Report No. D-2003-059-T, "Statement of David K. Steensma, Deputy Assistant Inspector General for Auditing, Office Inspector General of the Department of Defense to the House Committee on Armed Services on U.S.-Russian Cooperative Threat Reduction and Non-Proliferation Programs," March 4, 2003

IG DoD Report No. D-2002-154, "Cooperative Threat Reduction Program Liquid Propellant Disposition Project," September 30, 2002

IG DoD Report No. D-2002-033, "Management Costs Associated With the Defense Enterprise Fund," December 31, 2001

IG DoD Report No. D-2001-074, "Cooperative Threat Reduction Program," March 9, 2001

IG DoD Report No. D-2000-176, "Defense Enterprise Fund," August 15, 2000

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## **Appendix C. Report Distribution**

### **Office of the Secretary of Defense**

Deputy Secretary of Defense  
Under Secretary of Defense for Acquisition, Technology, and Logistics  
Assistant to the Secretary of Defense (Nuclear, Chemical, and Biological Defense Programs)  
Deputy Assistant to the Secretary of Defense (Chemical Demilitarization and Threat Reduction)  
Under Secretary of Defense for Policy  
Assistant Secretary of Defense (International Security Policy)  
Deputy Under Secretary of Defense (Technology Security Policy and Counterproliferation)  
Under Secretary of Defense (Comptroller)/Chief Financial Officer  
Deputy Chief Financial Officer  
Deputy Comptroller (Program/Budget)  
General Counsel of the Department of Defense

### **Department of the Army**

Auditor General, Department of the Army

### **Department of the Navy**

Naval Inspector General

### **Department of the Air Force**

Assistant Secretary of the Air Force (Financial Management and Comptroller)  
Auditor General, Department of the Air Force

### **Unified Command**

Commander in Chief, U.S. European Command

### **Other Defense Organizations**

Director, Defense Threat Reduction Agency

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## **Non-Defense Federal Organization**

Office of Management and Budget

### **Congressional Committees and Subcommittees, Chairman and Ranking Minority Member**

Senate Committee on Appropriations  
Senate Subcommittee on Defense, Committee on Appropriations  
Senate Committee on Armed Services  
Senate Committee on Foreign Relations  
Senate Committee on Governmental Affairs  
House Committee on Appropriations  
House Subcommittee on Defense, Committee on Appropriations  
House Committee on Armed Services  
House Committee on Government Reform  
House Subcommittee on Government Efficiency and Financial Management, Committee on Government Reform  
House Subcommittee on National Security, Emerging Threats, and International Relations, Committee on Government Reform  
House Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census, Committee on Government Reform  
House Committee on International Relations  
House Subcommittee on International Terrorism, Nonproliferation and Human Rights, Committee on International Relations

# Under Secretary of Defense for Policy Comments

Final Report  
Reference



POLICY

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
2000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-2000

OCT 31 2003

Mr. Shelton R. Young  
Director, Readiness and  
Logistics Support Directorate  
Office of the Inspector General  
Department of Defense  
400 Army Navy Drive  
Arlington, VA 22202-2884

Dear Mr. Young:

Per your request, comments on the draft Report on Cooperative Threat Reduction Construction Projects (Project No. D2002LG-0219.01) are included herein.

In general, we agree with the conclusions of the report. OSD-Policy has worked diligently to secure legally binding commitments that will permit long-term monitoring of materials placed in the Fissile Material Storage Facility; these commitments will also mitigate risks to completion of the Chemical Weapons Destruction Facility and ensure that the facility is being used for its intended purpose.

In this regard, we are pleased to report that, as of 23 September 2003, amendments to the Chemical Weapons Destruction Facility Implementing Agreement were signed between the Russian Munitions Agency and the Department of Defense that commit Russia to complete the destruction of all of its nerve agent at Shchuch'ye and to complete a "practical plan" by March of 2004 for such destruction.

In addition, we would note that the commitment amendments to the Strategic Offensive Arms Elimination-Russia Implementing Agreement, characterized on page 16 of your report as "awaiting signature," were signed by DoD and its Russian counterpart on 25 September 2003.

Furthermore, a comment attributed to the Director, CTR Policy, on page 10 of the draft report requires clarification. Under the heading "Storage of Fissile Material," it states that while the FMSF Agreement is between DoD and MINATOM, the fissile material intended to be stored at the FMSF is in the custody of the Russian Ministry of Defense (MOD). In fact, less than 40 percent of the subject material is contained in weapons under MOD custody. This clarification also informs our response to Recommendation 1.a.(1) (see Tab A).

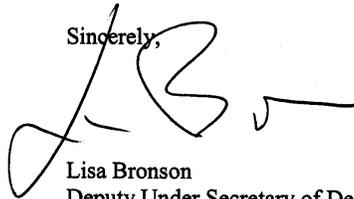
Revised

Revised

Finally, we believe the draft report does not account sufficiently for a significant foreign policy factor that may well limit risks to the Chemical Weapons Destruction Facility (CWDF). Specifically, failure to use the facility for its intended purpose or to live up to its commitments, would result in Russian non-compliance with its Chemical Weapons Convention commitments. In general, Russia has tried to posture itself as a responsible international player and has tried to illustrate this outlook through successful chemical weapons destruction.

Thank you for the opportunity to comment on the draft report.

Sincerely,

A handwritten signature in black ink, appearing to be 'L. Bronson', written over the word 'Sincerely,'.

Lisa Bronson  
Deputy Under Secretary of Defense,  
Technology Security Policy and  
Counterproliferation

IG DRAFT REPORT DATED SEPTEMBER 12, 2003  
PROJECT NO. D2002LG-0219.01

“COOPERATIVE THREAT REDUCTION CONSTRUCTION PROJECTS”

DEPARTMENT OF DEFENSE COMMENTS  
TO THE REPORT

**RECOMMENDATION 1.a.(1)**: The IG recommended that the Deputy Under Secretary of Defense for Technology Security Policy and Counterproliferation negotiate an amendment to the Cooperative Threat Reduction implementing agreement that requires a written agreement from the Ministry of Defense that outlines the types and quantities of fissile material to be provided for storage at the Fissile Material Storage Facility.

**DOD RESPONSE**: Concur with comment. The Russian executive agent in question should be the Ministry of Atomic Energy rather than the Ministry of Defense. The commitment amendment currently under negotiation with Minatom will satisfy this recommendation. We are attempting to finalize and sign this amendment by December 2003.

**RECOMMENDATION 1.a.(2)(a)**: The IG recommended that the Deputy Under Secretary of Defense for Technology Security Policy and Counterproliferation negotiate an amendment that requires the Russian Munitions Agency to obtain from the Russian Federal Directorate all necessary design package approvals for the Chemical Weapons Destruction Facility prior to DoD expending more than 35 percent of the total cost of the facility.

**DOD RESPONSE**: Non-concur. The recommendation is intended to limit program risks by restricting concurrency between design and construction. While we agree in principle, the use of a monetary cap will not achieve the desired goal and would increase the project's cost. Local authorities in the Kurgan Region have approved the “declaration of intent” and the land allocation that constitute, respectively, authorization to construct and preliminary authorization to operate the CWDF. These approvals covered the neutralization of chemical agent and bituminization of reaction mass that is planned for the US-funded facility. A final operating license can only be applied for once the facility is completed and tested. At this point, DTRA has nearly expended 35% of the total cost of the facility based on the construction and related permits that have been issued. The fact that some of the over 50 design packages for the project have not yet received local government approval does not pose a risk to the project as a whole. Problems with permits required for design packages would not lead to suspension of overall construction. Rather, deficiencies with individual design packages would involve specific building code compliance issues that could be rectified in the order they arise.

Revised

**General Comments:**

Revised

Page 2, "Changes to the Fissile Material Storage Facility," second sentence should read: "Initially, two Fissile Material Storage Facilities were to be constructed, one located in Tomsk, Russia, and another located at Mayak, Russia, but in January 1994 a decision was made to only build the FMSF at Mayak."

Revised

Page 3, "Disposal of Russian Chemical Weapons," third sentence from the last. The correct number of declared SS-21 warheads stored at Shchuch'ye is 136 rather than 42.

Revised

Page 3, "Disposal of Russian Chemical Weapons," last sentence. Transfer of custody of the CWDF will probably be in September 2008, rather than March 2008.

Revised

Page 6, "Status of Liquid Propellant Disposition Facility," second to last sentence states that the cost of removing the hydrogen generators and steam boilers is \$1.5 million. The figure of \$1.5 million equates to the value of the equipment being dismantled. There were costs incurred to decontaminate the system and to winterize those areas of the building that we wished to recover.

Revised

Page 7, "Status of Fissile Material Storage Facility," last sentence. We would propose to replace the word "oxide" with "not declared excess to military needs"; and add "currently declared excess" at the end of the sentence.

Revised  
Page 9

Page 8, "Potential Litigation," third sentence. The amendment to the Russian law was enacted in November 2001, rather than December 2001.

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# Defense Threat Reduction Agency Comments



**Defense Threat Reduction Agency**  
8725 John J. Kingman Road MSC 6201  
Ft Belvoir, VA 22060-6201

NOV 9 2003

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Draft Report on the Cooperative Threat Reduction Construction Projects  
(Project No. D2002LG-0219.01 of September 12, 2003)

Thank you for the opportunity to review and comment on the draft report concerning Cooperative Threat Reduction (CTR) Program Construction Projects.

This report addressed more than one organization. The Defense Threat Reduction Agency (DTRA) wishes to only comment on those items directed toward DTRA.

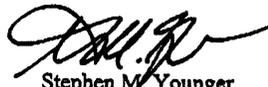
FINDING: Recommendation 2: "We recommend that the Director, Defense Threat Reduction Agency issue a modification to the chemical weapons destruction facility (CWDF) contract that will provide for the additional work required to resolve the water drawdown issue."

REPLY: DTRA concurs with the need to resolve the water drawdown issue. DTRA has already instructed the lead contractor, Parsons, to undertake sufficient activities to come into compliance with Russian Federation Environmental Regulations. Specifically we have directed the following:

- Prepare a detailed plan for performing the entire task. (*complete*)
- Review environmental requirements for disposition of ground water, conduct analysis of site and river water, rank order candidate water treatment concepts. (*complete*)
- Prepare a Statement of Work for performing the hydrology work. (*complete; subcontract awarded*)
- Perform a hydrological survey and submit an analysis report. (*in progress*)
- Determine maximum allowable discharge rates during construction and during CWDF operation.
- Submit a short list of alternative water treatment concepts and recommend a concept to the Kurgan Board.
- Submit revised Stage II Technical Documentation, including an Environmental Impact Statement, for the approved water treatment concept.
- Obtain approval for the Stage III Technical Documentation.
- Submit, for the water treatment plant, Working Construction Documents that comply with Stage III Technical Documentation.

- 
- Construct a water treatment facility to be operating as the CWDF begins operations to ensure compliance with Russian Environmental Regulations regarding the discharge of untreated water into the watershed. *(The current plan will complete this task and incorporate a design concept on the discharge and treatment of drainage runoff from the waste storage site.)*

Thank you again for the opportunity to comment on this draft report. We request you consider this response in publishing your final report.

  
Stephen M. Younger  
Director

Attachments:  
Department of Defense Inspector General Draft Response

## **Team Members**

The Readiness and Logistics Support Directorate, Office of the Deputy Inspector General for Auditing of the Department of Defense prepared this report. Personnel of the Office of the Inspector General of the Department of Defense who contributed to the report are listed below.

Shelton R. Young  
Evelyn R. Klemstine  
Donney J. Bibb  
Michael T. Brant  
Lynne M. Champion  
Mason A. Kaur  
David L. Leising  
Susann L. Cobb